I claim:

1. A method for replacing ballast water in a ballast tank of a ship while the ship is underway in the sea comprising the steps of:

providing a seawater inlet port in the bow of the ship when the ship is moving through the sea at a pressure that is greater than the pressure of the ballast water that is to be replaced, the pressure being measured in a bottom region of the tank;

directing the pressurized seawater from the inlet port into the bottom portion of the ballast tank;

discharging water into the sea from at least one outlet port located in a top portion of the ballast tank.

2. The method of claim 1, wherein the ballast water is discharged through a plurality of outlet ports at the top portion of the ballast tank.

3. The method of claim 1, wherein the pressurized sea water is distributed along the bottom of the ballast tank.

4. The method of claim 3, wherein the seawater is directed into the ballast tank through a single opening in a wall of the tank.

5. The method of claim 3, wherein the seawater is directed into the ballast tank through a plurality of openings in a wall of the tank.

6. The method of claim 1 which comprises the further steps of:

measuring the flow rate of discharge of seawater from the at least one outlet port;

continuing the discharge of seawater from the at least one outlet port for a predetermined time that is based on the flow rate;

terminating the flow of water into the bottom portion of the ballast tank; and

closing the at least one outlet port to seal the tank.

7. The method of claim 6, wherein the discharge is continued for a time that is sufficient to effect a predetermined minimum effective exchange of replacement seawater with ballast water that is to be replaced.

8. The method of claim 7, wherein the effective exchange is at least eighty percent.

9. The method of claim 6 which includes directing water to another ballast tank on the same ship.

10. A method for dynamically replacing the ballast water in a plurality of separate ballast tanks in a ship moving through the sea comprising the steps of:

a. providing a seawater inlet port in the bow of the ship when the ship is moving through the sea at a pressure that is

greater than the pressure of the ballast water that is to be replaced, the pressure being measured in a bottom region of the tanks;

b. directing the pressurized seawater from the inlet port into the bottom portion of the ballast tanks; and

c. discharging water from at least one outlet port located in a top portion of the ballast tanks and into the sea.

11. The method of claim 10, wherein the pressurized seawater is introduced into more than one tank simultaneously.

12. Apparatus for dynamically exchanging the ballast water in a ship having a plurality of ballast tanks while the ship is moving through the sea, the apparatus comprising:

a. a submerged seawater inlet port located in the hull of the ship;

b. at least one main conduit in fluid communication with the inlet port;

c. at least one feedline extending from a lower portion of each of the plurality of ballast tanks for which a dynamic ballast exchange is to be effectuated, and in fluid communication with the at least one main conduit;

d. at least one outlet port located at the top of each of the plurality of ballast tanks, said outlet ports being provided for the discharge of water from inside the plurality of ballast tanks into the sea,

whereby seawater admitted into the inlet port flows into the lower portion of the plurality of ballast tanks, the water in the ballast tanks being discharged through the respective outlet ports.

13. The apparatus of claim 12 which further comprises at least one protective door for covering the inlet port.

14. The apparatus of claim 12 which further comprises at least one valve positioned to interrupt the flow through each of the at least one main conduits.

15. The apparatus of claim 12 which further includes at least one valve on each of the feedlines to the ballast tanks.

16. The apparatus of claim 12 which further includes at least one valve to interrupt the flow of water through the at least one outlet port at the top of the plurality of ballast tanks.

17. The apparatus of claim 12 which further comprises a distribution manifold for directing water from the feedline throughout the bottom potion of each of the ballast tanks.

18. The apparatus of claim 12, wherein a main conduit passes through the walls of the plurality of ballast tanks.

19. The apparatus of claim 12, wherein the at least one inlet port is located in the bow of the ship.

20. The apparatus of claim 19, wherein the at least one main conduit extends aft from the bow inlet port.

21. The apparatus of claim 20, wherein two main conduits extend longitudinally from the bow on either side of the ship's keel line.

22. The apparatus of claim 12 where the at least one inlet port is a scoop located in the bottom of the hull.

23. The apparatus of claim 22 further comprising at least one auxiliary ballast pump in fluid communication with the at least one main conduit and the at least one ballast feedline, whereby the hydrodynamic pressure in the ballast tanks can be increased by actuating the at least one auxiliary pump.

24. The apparatus of claim 23 further comprising a sea chest fitted into the ship's hull, the sea chest in fluid communication with the auxiliary ballast pump.

25. The apparatus of claim 22, wherein two scoops are located at fore and aft positions in the bottom of the hull.